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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/583,412

06/20/2006

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EXAMINER

CHUO, TONY SHENG HSIANG

ART UNIT

PAPER NUMBER

1795

NOTIFICATION DATE

DELIVERY MODE

08/19/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/583,412	<b>Applicant(s)</b> OTSUKI ET AL.	
	<b>Examiner</b> Tony Chuo	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,6,7,10 and 11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6,7,10 and 11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/21/10 has been entered.

### ***Response to Amendment***

2. Claims 1, 6, 7, 10, and 11 are currently pending. Claims 2-5, 8, and 9 are cancelled. The amended claims do overcome the previously stated 102 and 103 rejections. However, upon further consideration, claims 1, 6, 7, 10, and 11 are rejected under the following new 102 and 103 rejections.

### ***Claim Rejections - 35 USC § 102/103***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Otsuki et al (WO/2003/005479) using (US 2004/0191635) as an equivalent English translation.

The Otsuki reference discloses a non-aqueous electrolyte cell comprising: a positive electrode, a negative electrode, and an electrolyte comprising: an aprotic organic solvent such as ethylene carbonate (boiling point=238°C), propylene carbonate, dimethyl carbonate (boiling point=90°C), ethyl methyl carbonate (boiling point=108°C), diethyl carbonate (boiling point=127°C), wherein a combination of two or more aprotic organic solvents is preferable; a support salt (Abstract and paragraph [0212]), and a phosphazene derivative represented by general formula (3) (paragraphs [0191]-[0192]). It also discloses that the phosphazene derivative is a mixture of components in which the ratio of methoxy group (MO) to fluorine (F) in all Xs of the formula (3) (MO/F ratio) is 2/4, 3/3, and 4/2 (paragraph [0259]), wherein the phosphazene derivative is mixed with an aprotic organic solvent (mixed solvent of ethylene carbonate (boiling point=238°C) and diethyl carbonate (boiling point=127°C)) (paragraph [0264]). Examiner's note: The boiling point of a phosphazene derivative having a MO/F ratio of 3/3 is 230°C as disclosed in paragraph [0084] of the specification of the present invention which corresponds to the boiling point of ethylene carbonate. In addition, the examiner takes

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the position that the boiling point of a phosphazene derivative having a MO/F ratio of 2/4 is inherently not more than 25°C from the boiling point of diethyl carbonate. Burden is on applicants to show differences in product comparison.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otsuki et al (WO/2003/005479) using (US 2004/0191635) as an equivalent English translation.

The Otsuki reference discloses a non-aqueous electrolyte cell comprising: a positive electrode, a negative electrode, and an electrolyte comprising: an aprotic organic solvent such as ethylene carbonate (boiling point=238°C), propylene carbonate (boiling point=242°C), dimethyl carbonate (boiling point=90°C), ethyl methyl carbonate (boiling point=108°C), diethyl carbonate (boiling point=127°C), wherein a combination of two or more aprotic organic solvents is preferable; a support salt (Abstract and paragraph [0212]); and a phosphazene derivative represented by general formula (3) (paragraphs [0191]-[0192]). It also discloses that the phosphazene derivative is a mixture of components in which the ratio of methoxy group (MO) to fluorine (F) in all Xs of the formula (3) (MO/F ratio) is 2/4, 3/3, and 4/2 (paragraph [0259]), wherein the

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phosphazene derivative is mixed with an aprotic organic solvent (mixed solvent of ethylene carbonate (boiling point=238°C) and diethyl carbonate (boiling point=127°C)) (paragraph [0264]). Examiner's note: The boiling point of a phosphazene derivative having a MO/F ratio of 3/3 is 230°C as disclosed in paragraph [0084] of the specification of the present invention.

However, Otsuki et al does not expressly teach each aprotic organic solvent that has a difference of a boiling point from that of at least one phosphazene compound of not more than 25°C.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Ootsuki electrolyte to include each aprotic organic solvent that has a difference of a boiling point from that of at least one phosphazene compound of not more than 25°C because it would have been obvious to try a mixture of known aprotic organic solvents for forming a self-extinguishing, fire retardant, incombustible electrolyte solution with a reasonable expectation of success. For example, a mixture of ethylene carbonate and propylene carbonate would have boiling points of not more than 25°C from the boiling point of a phosphazene derivative having a MO/F ratio of 3/3.

8. Claims 7, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Otsuki et al (WO/2003/005479) using (US 2004/0191635) as an equivalent English translation as applied to claims 1 and 6 above, and further in view of Otsuki et al (WO/2003/005478) using (US 2004/0192853) as an equivalent English translation.

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However, Otsuki '479 does not expressly teach a polymer cell comprising an electrolyte comprising a polymer. The Otsuki '478 reference discloses a polymer cell comprising a polymer electrolyte containing a polymer and a phosphazene derivative (Abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Otsuki '479 non-aqueous electrolyte cell to include a polymer cell comprising an electrolyte comprising a polymer in order to utilize a cell that has excellent low temperature discharge property and high temperature storage property (paragraph [0095]). In addition, the substitution of one known type of electrochemical cell for another would have yielded predictable results to one of ordinary skill in the art at the time the invention was made.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1, 6, 7, 10, and 11 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Chuo whose telephone number is (571)272-0717. The examiner can normally be reached on M-F, 9:00AM to 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer Michener can be reached on (571) 272-1424. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TC

/Ula C Ruddock/  
Supervisory Patent Examiner, Art Unit 1795